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July 16, $9^h\ 14^m$. A bright gap in the S. Temperate Band was on central meridian.

July 17. Two bright spots or gaps were seen in the N. component of the S. Tropical Belt. One was on the central meridian about $9^h\ 17^m$. A dark spot on the N. component of the N. Tropical Belt was on the central meridian about $9^h\ 21^m$.

July 18. At about $9^h\ 2^m$ a bright spot or gap in the S. Temperate Band was on the central meridian.

August 15. At about $8^h\ 8^m$ a dark spot on the N. edge of the N. component of the S. Tropical Belt was on the central meridian. Two bright gaps in the N. Tropical Belt were also seen. One of them was on the central meridian about $8^h\ 17^m$.

August 16. A long, dark spot on the N. edge of the S. Tropical Belt was on the central meridian about $7^h\ 43^m$. A bright gap in the S. Temperate Band was seen about the same time to the W. of the central meridian.

August 20. Two bright gaps were seen in the N. Tropical Belt at $7^h\ 24^m$.

August 27. A bright gap in the N. component of the N. Tropical Belt was central about $8^h\ 8^m$. A little in advance there was another bright gap in the same belt.

Phenomena of Jupiter's Satellites.

II. Tr. I. External contact at $8^h\ 54^m$ July 10; visible on the disc till after $9^h\ 20^m$. I. Ec. R. First seen, through thin cloud, at $10^h\ 25^m\ 44^s$ July 12. III. Sh. I. Just fully on the disc at $8^h\ 43^m$ July 17.

II. Oc. R. External contact at $7^h\ 27^m$, and II. Ec. D. last seen at $7^h\ 38^m\ 0^s$ August 20.

On the Appearance of Saturn's "Crape" Ring in 1900.

By E. M. Antoniadi.

Since the publication of the two papers in vol. lix., pp. 498 and 586, of the *Monthly Notices*, the writer has tried to follow the deportment of the dark ring as affected by the varying heights of the Sun and Earth above the plane of the system.

Owing to the fact that the mirror of the great Paris siderostat could not be pointed so as to make a smaller angle than 12° with the vertical, observations of *Saturn* at $-22\frac{1}{2}°$ of declination were rendered impossible with the large telescope. At Juvisy, with the $9\frac{3}{4}$-inch equatorial, nothing abnormal could be detected until the beginning of autumn. On 1900 October 2 the following peculiarities were noted again and again during the fugitive moments of very sharp seeing :—

1. The "crape" ring seemed of uniform intensity across the planet.

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2. Its breadth on minor axis was greater than what ought to be expected from its breadth on major axis; indeed, along the minor axis, it appeared broader than the outermost ring, occupying fully three-tenths of the total breadth of the system.

3. Its inner edge in front of *Saturn* was much more concave than the outer edge; more so than would be anticipated from the divergence of two concentric elliptical arcs. Meantime, the inner edge across the planet did not seem to form the continuation of the edge projected on the sky. But this observation was rendered exceedingly difficult and uncertain on account of the low altitude of *Saturn* and the concomitant strong absorption of the "dark" ring's feeble light.

Now, at the date of these observations we had

$$l-l'=0^\circ 43',$$

a value which, taken in connection with the facts enunciated, tends to militate against the notion of a *dark* ring. Owing, however, to the smallness of $\Delta=43'$, these results cannot be considered decisive, almost grazing, as they do, observational errors. The question will be elucidated by the greater values of Δ in coming years.

Observatoire Flammarion, Juvisy (S.-et-O.):
1900 *October* 12.

Occultations of Saturn, 1900 *June* 13 *and September* 3, *observed at the Radcliffe Observatory, Oxford.*

(*Communicated by the Radcliffe Observer.*)

The following observations of two occultations of *Saturn* were made at this Observatory:—

1900 *June* 13.

Phenomena.	Observer.	Reappearance (at Dark Limb of Moon). Observed G.M.T.
Ring—		h m s
1st trace	R.	10 49 51·1
2nd contact	"	10 50 1·6
Ball—		
1st contact	"	10 50 20·0
Ring—		
3rd contact	"	10 51 3·9
Last "	"	10 51 11·9

Observer's Remarks.

Saturn very faint; reappeared near bright, but defective,

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